

EXHIBIT 2

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SAMSUNG ELECTRONICS CO. LTD.,
Petitioner,

v.

HEADWATER RESEARCH LLC,
Patent Owner.

IPR2023-01226
Patent 10,237,773 B2

Before ROBERT J. WEINSCHENK, GARTH D. BAER, and
STEPHEN E. BELISLE, *Administrative Patent Judges*.

BAER, *Administrative Patent Judge*.

DECISION
Granting Institution of *Inter Partes* Review
35 U.S.C. § 314

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I. INTRODUCTION

A. Background

Samsung Electronics Co., Ltd. (“Petitioner”) filed a Petition requesting an *inter partes* review of claims 1–20 (the “challenged claims”) of U.S. Patent No. 10,237,773 B2 (Ex. 1001, “the ’773 patent”). Paper 1, 1 (“Pet.”). Headwater Research LLC (“Patent Owner”) filed a Preliminary Response. Paper 6 (“Prelim. Resp.”). With our authorization, Petitioner filed a Reply to Patent Owner’s Preliminary Response (Paper 7, “Pet. Reply”) and Patent Owner filed a Sur-Reply (Paper 8, “PO Sur-Reply”).

Under 35 U.S.C. § 314, an *inter partes* review may not be instituted “unless . . . there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” Upon consideration of the Petition in view of the present record and for the reasons explained below, we determine that Petitioner has shown a reasonable likelihood of prevailing with respect to at least one of the challenged claims. Accordingly, we institute an *inter partes* review on all grounds set forth in the Petition. *See* 37 C.F.R. § 42.108(a).

B. Related Proceedings

The parties identify the following related matter: *Headwater Research LLC v. Samsung Electronics Co., Ltd.*, 2:22-cv-00422 (E.D. Tex.). Pet. 88; Paper 4, 1–2.

C. The ’773 Patent (Ex. 1001)

The ’773 patent is directed to services for protecting network capacity. Ex. 1001, code (54). Figure 19 is reproduced below.

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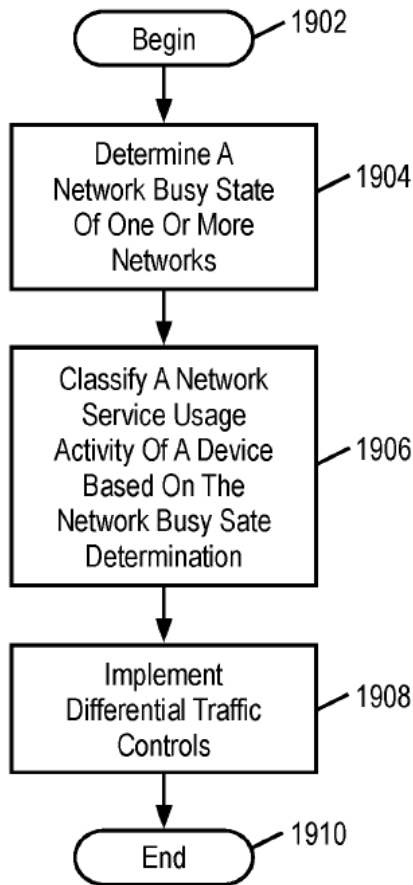


FIG. 19

Figure 19 illustrates a “flow diagram for device assisted services (DAS) for protecting network capacity.” *Id.* at 2:34–35. The ’773 patent describes “monitoring a network service usage activity,” “classifying the network service usage activity,” and “associating the network service usage activity with a network service usage control policy . . . to facilitate differential network access control.” *Id.* at code (57).

D. Illustrative Claim

Claim 1 is the sole challenged independent claim. Claim 1 is reproduced below, with numbering added.

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[1pre] A wireless end-user device, comprising:

[1.1] a processor:

[1.2] a Wireless Wide-Area Network (WWAN) modem, to communicate data for network service usage activities between the wireless end-user device and a WWAN; and

[1.3] a non-transitory computer-readable storage medium storing instructions that, when provided to the processor, cause the processor to

[1.4] receive respective requests from a plurality of applications on the device to access the WWAN for background network service usage activities associated with the respective applications,

[1.5] based at least in part on a current WWAN network busy state, select a corresponding current service usage control policy for the background network service usage activities,

[1.6] determine respective deferred time slots for each of the background network service usage activities based on the current service usage control policy, wherein at least one such service usage control policy specifies that during a time when the current WWAN network busy state indicates network congestion, a selected subset of the background network service usage activities are deferred until network congestion is no longer indicated, and

[1.7] allow each of the background network service usage activities to access the WWAN during the respective deferred time slot for that background network service usage activity.

Ex. 1001, 107:33–62.

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E. Asserted Grounds of Unpatentability

Petitioner asserts the following grounds of unpatentability. Pet. 1–2.

Claim(s) Challenged	35 U.S.C. §	Reference(s)/Basis
1, 5–8, 10, 13, 14, 20	103 ¹	Cole ²
1–8, 10, 13–15, 20	103	Cole, D’Amore ³
9, 11, 12, 16, 18, 19	103	Cole, Rao ⁴
9, 11, 12, 16, 18, 19	103	Cole, D’Amore, Rao
17	103	Cole, Aleksic ⁵
17	103	Cole, D’Amore, Aleksic

Petitioner submits a declaration from Patrick Traynor. Ex. 1003.

II. DISCUSSION

A. Discretion under 35 U.S.C. § 325(d)

Patent Owner contends we should deny institution under 35 U.S.C. § 325(d) because the same or substantially the same prior art or arguments previously were presented to the Office. Prelim. Resp. 15–28. Specifically, Patent Owner explains that of the two references asserted against claim 1, one—Cole—is nearly identical to a close relative that was cited in the patent’s prosecution history, and the other—D’Amore—is cumulative of that

¹ The Leahy-Smith America Invents Act, Pub. L. No. 112-29, 125 Stat. 284 (2011) (“AIA”), included revisions to 35 U.S.C. § 103 that became effective after the filing of the application that led to the challenged patent. Therefore, we apply the pre-AIA version of 35 U.S.C. § 103.

² US 2008/0080458 A1, Pub. Apr. 3, 2008 (Ex. 1005, “Cole”).

³ US 2009/0119773 A1, Pub. May 7, 2009 (Ex. 1006, “D’Amore”).

⁴ US 2006/0039354 A1, Pub. Feb. 23, 2006 (Ex. 1007, “Rao”).

⁵ US 2008/0057894 A1, Pub. Mar. 6, 2008 (Ex. 1011, “Aleksic”).

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same cited reference. *See* Prelim. Resp. 17–23. For the reasons given below, we are not persuaded to exercise our discretion to deny the Petition based on § 325(d).

In evaluating arguments under § 325(d), we use a two-part framework: (1) whether the same or substantially the same art previously was presented to the Office or whether the same or substantially the same arguments previously were presented to the Office; and (2) if either condition of the first part of the framework is satisfied, whether the petitioner has demonstrated that the Office erred in a manner material to the patentability of challenged claims. *Advanced Bionics, LLC v. MED-EL Elektromedizinische Geräte GmbH*, IPR2019-01469, Paper 6 at 8 (PTAB Feb. 13, 2020) (precedential).

Here, Petitioner relies on D’Amore, a reference that was not before the examiner, for teaching claim limitation [1.6], which requires “a selected subset of the background network service usage activities are deferred until network congestion is no longer indicated.” Pet. 7, 36–37. We agree with Petitioner that D’Amore is not cumulative of Cole. Pet. Reply 3–4. Specifically, D’Amore teaches that “different priority levels (e.g., high or low) are assigned to applications” and “access by the lower priority applications is restricted or deferred when the network is congested.” Pet. 40 (citing Ex. 1006 ¶¶ 60–61, 70–72); *see* Prelim. Resp. 22. Cole’s relevant disclosure, in contrast, is more generic. It teaches aborting “certain bandwidth activities” and “reschedul[ing] the aborted activity at a later time, presumably when the bandwidth load will be decreased or a better connection will be available.” Pet. 34 (citing Ex. 1005 ¶¶ 75, 80); *see* Prelim. Resp. 22. As compared to Cole, D’Amore’s disclosure more clearly

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teaches what is deferred in limitation [1.6] (“a selected subset of the background network service usage activities”) and the deferment’s extent (“until network congestion is no longer indicated”). Thus, Patent Owner has not shown that part one of the *Advanced Bionics* framework is met.

In addition, Petitioner has sufficiently shown under part two of the *Advanced Bionics* framework that the Office materially erred when it allowed the challenged claims. As *Advanced Bionics* explains, the record developed by the Office informs what the petitioner must show to demonstrate the Office materially erred. *Advanced Bionics*, Paper 6 at 10. With respect to Cole and D’Amore, the record developed by the Office is sparse because Cole was one of about 1,500 references identified in information disclosure sheets and never discussed substantively during prosecution, and D’Amore was not before the Office. Pet. Reply 3; Ex. 1002, 281–443. In light of the sparse record, Petitioner’s showing on the merits is enough to demonstrate that the examiner erred. Specifically, to the extent the examiner substantively considered Cole and a reference cumulative of D’Amore as a combination and concluded that the combination does not teach claim 1, the examiner materially erred. Instead, for the reasons outlined below, the asserted combination teaches claim 1. Given the Petition’s analysis and the sparse record developed by the Office addressing the Petition’s asserted references, Petitioner has sufficiently shown under part two of the *Advanced Bionics* framework that the Office materially erred when it found the prior art does not teach claim 1.

For these reasons, we decline to exercise our discretion to deny the Petition based on § 325(d).

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B. Claim Construction

In an *inter partes* review proceeding, we construe patent claims using the same standard used in a civil action under 35 U.S.C. § 282(b), including construing the claim in accordance with the ordinary and customary meaning of the claim as understood by one of ordinary skill in the art and the prosecution history pertaining to the patent. 37 C.F.R. § 42.100(b). Neither party proposes an express construction for any claim terms. Pet. 3; *see generally* Prelim. Resp. 8. We agree that no claim terms require express construction for purposes of this Decision.

C. Level of Ordinary Skill in the Art

Petitioner contends a person of ordinary skill in the art at the time of the invention “would have had (1) at least a bachelor’s degree in computer science, electrical engineering, or a related field, and (2) at least two years of industry experience in services and application implementation in communication networks,” and that “[a]dditional graduate education could substitute for professional experience, and *vice versa*.” Pet. 3 (citing Ex. 1003 ¶¶ 22–23). Patent Owner does not challenge Petitioner’s definition at this stage of the proceeding. Prelim. Resp. 7. On this record, we agree with Petitioner’s definition.

*D. Description of Primary Prior Art References**1. Cole (Ex. 1005)*

Cole is directed to a communication manager. Ex. 1005, code (54). Cole’s Figure 2 is reproduced below.

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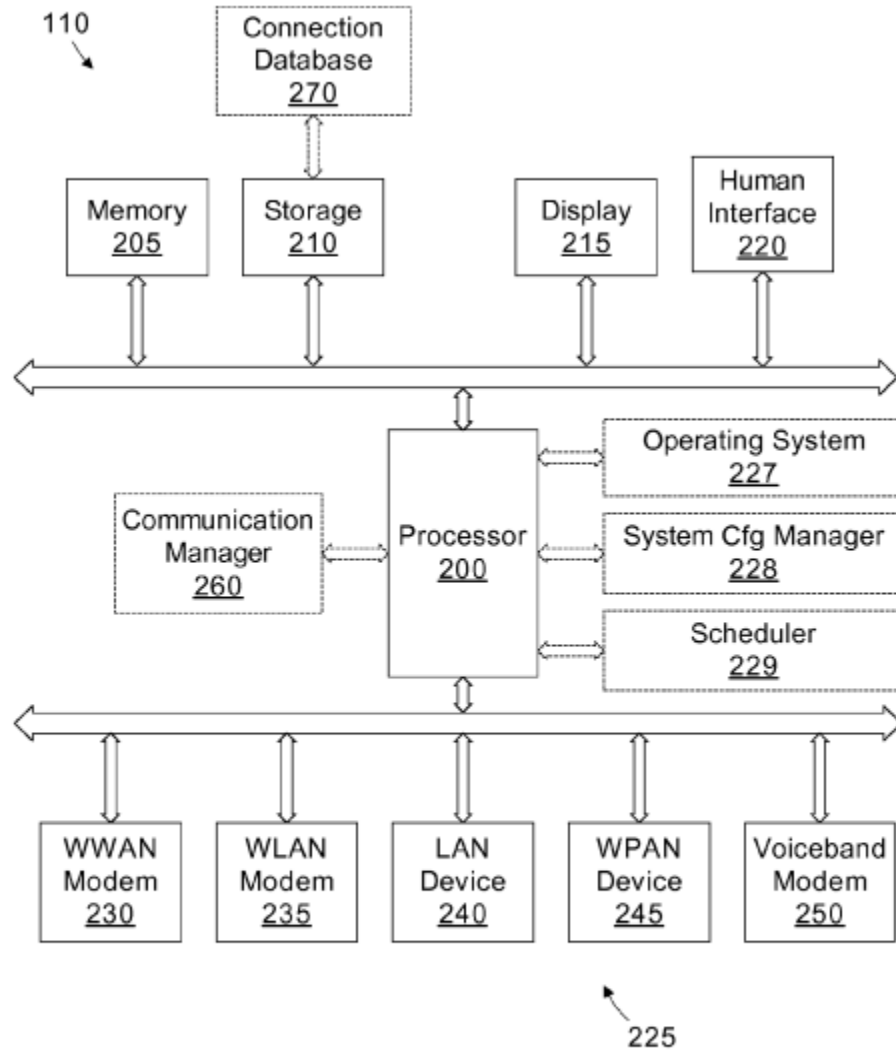


Figure 2

Figure 2 is a block diagram of a mobile device in a communication system.

Id. ¶¶ 17, 187. Cole’s connection manager “manages the various communication interfaces” between mobile devices and remote networks “to determine which connections should be active at any given time.”

Id. ¶ 36, *see id.* ¶ 15. Cole teaches that the connection manager can “schedule various events to effectively use available bandwidth without negatively impacting performance.” *Id.* ¶ 74.

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2. D'Amore (Ex. 1006)

D'Amore describes “management and arbitration of dedicated mobile communication resources for mobile applications.” Ex. 1006, code (57).

D'Amore's Figure 2 is reproduced below.

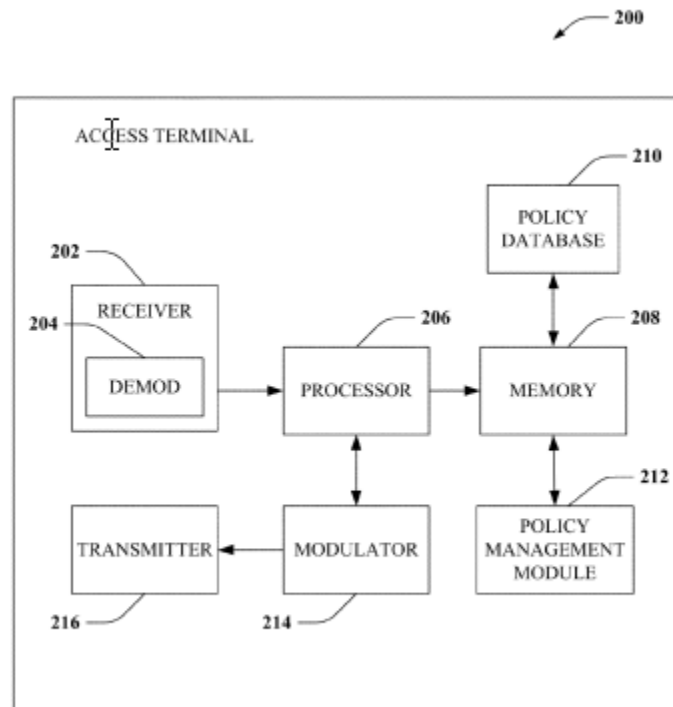


Figure 2 is “a block diagram of a sample access terminal.” *Id.* ¶ 19.

D'Amore's policy management module can “approve or deny access to a mobile device resource and/or mobile network resource for a mobile application” “based at least in part on a priority level or a privilege code associated with the mobile application.” *Id.* ¶ 51.

E. Obviousness Analysis

In its first two obviousness grounds, Petitioner contends that claims 1–8, 10, 13–15, and 20 would have been obvious over Cole either alone, or in combination with D'Amore. Pet. 7–61. Specifically, according to Petitioner, Cole teaches claim 1's processor, modem, and memory. *See id.* at 18–25. In addition, Petitioner explains, Cole's connection manager

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includes claim 1's network-service deferral process for a subset of background processes requesting network services. *See id.* at 25–39. Petitioner alternatively relies on D'Amore for disclosing “the ‘selected subset’ feature of claim 1 (***a selected subset of the background network service usage activities***)” as additional support to Cole's disclosure of this feature.” Pet. 7. Petitioner adds Rao or Aleksic to address additional limitations in dependent claims 9, 11, 12, 16, 18, and 19. *Id.* at 69–84.

Patent Owner raises several arguments to contest Petitioner's obviousness challenge. We address those arguments below.

1. Elements [1.5] and [1.6]

Elements [1.5] and [1.6] recite “based at least in part on a current WWAN network busy state, select[ing] a corresponding current service usage control policy for the background network service usage activities,” and “determin[ing] respective deferred time slots for each of the background network service usage activities based on the current service usage control policy.” Petitioner asserts that Cole teaches the claimed policy that is dependent on a network busy state because Cole teaches that “[w]hen the monitored load exceeds a predetermined threshold . . . the connection manager 260 may take one of several actions to manage the load.” Ex. 1005 ¶ 75; *see* Pet. 30. According to Petitioner, Cole teaches selecting a policy in such times because Cole includes a “postponement policy” under which “the connection manager . . . may postpone the actions automatically.” Pet. 30 (quoting Ex. 1005 ¶ 85). Petitioner goes on to explain that Cole teaches determining deferred time slots because “Cole further discloses that “[t]he connection manager 260 reschedules the aborted activity at a later time,

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presumably when the bandwidth load will be decreased or a better connection will be available.” *Id.* at 34 (quoting Ex. 1005 ¶ 80).

Patent Owner contends that Petitioner’s obviousness challenge fails because it improperly conflates selecting a policy with “actions taken pursuant to the policy.” Prelim. Resp. 10. According to Patent Owner, “[t]he Petition has, at most, set forth evidence that some sort of policy exists, but provides no evidence that any such policy is selected on the basis of a network busy state.” *Id.* at 11.

On the current record, we disagree with Patent Owner’s argument. At the outset, we disagree with Patent Owner’s argument that Cole’s postponement policy is selected independent of a network busy state (*see* Prelim Resp. 11) because, as Petitioner explains, Cole teaches that the connection manager may take one of several load-management actions “[w]hen the monitored load exceeds a predetermined threshold.” Ex. 1005 ¶ 75; *see* Pet. 30. Further, Cole teaches selecting a policy because it teaches “take[ing] one of several actions to manage the load,” and “determin[ing] if certain bandwidth activities should be aborted to preserve bandwidth for other applications.” Ex. 1005 ¶¶ 75, 80. To the extent Patent Owner is suggesting that a processor “selecting” a policy requires more than such actions, Patent Owner points to nothing in claim 1’s language or the specification that suggests such a narrow construction. *See* Prelim. Resp. 10–11; *see also* Ex. 1001 at 12:20–23 (explaining that “a service usage control policy is used for assisting in network access control of network service usage activities”). Likewise, to the extent Patent Owner is arguing that the claim requires selecting a policy from multiple possible network-busy policies, the claim is not so limited. Although the disputed claim

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language recites distinct policy-selecting and time-slot determining steps, nothing in claim's plain language otherwise limits the claimed policy selection such that it would exclude Cole's determination to implement a postponement policy when the network load exceeds a threshold.

Next, Patent Owner argues that Petitioner's obviousness challenge is deficient because Petitioner fails to show how Cole's determination of deferred time slots is based on the current service usage control policy, as claim 1 requires. Prelim Resp. 12–15. According to Patent Owner, “[t]he Petition does not even allege, much less show, that ‘respective deferred time slots’ are ‘based on’ what the Petition alleges to be the claimed ‘service usage control policy.’” *Id.* at 14. We disagree with Patent Owner's argument. Cole's rescheduling is based on its postponement policy because Cole's policy selection (i.e., “determin[ing] if certain bandwidth activities should be aborted,” Ex. 1005 ¶ 80) is a necessary predicate to determining deferred time slots. *See* Ex. 1005 ¶ 75 (explaining that “[w]hen the monitored load exceeds a predetermined threshold . . . the connection manager 260 may take one of several actions”). That is, the rescheduling action always follows the policy selection based on network load. On this record, such a relationship is enough to satisfy claim 1's “based on” language.

Given Petitioner's analysis as outlined above, on this record we agree with Petitioner that Cole teaches “select[ing] a corresponding current service usage control policy for the background network service usage activities,” and “determin[ing] respective deferred time slots for each of the background network service usage activities based on the current service usage control policy” as claim 1 requires.

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2. Summary

Other than as outlined above, Patent Owner does not additionally challenge Petitioner's obviousness contentions. We have reviewed Petitioner's arguments and the underlying evidence cited in support and are persuaded that, at this stage, Petitioner sufficiently demonstrates a reasonable likelihood of succeeding in its challenges to claims 1–20.

III. CONCLUSION

After considering the evidence and arguments presented in the current record, we determine that Petitioner has demonstrated a reasonable likelihood of success in proving that at least one of the challenged claims of the '773 patent is unpatentable. We therefore institute trial on all challenged claims and grounds raised in the Petition. At this stage of the proceeding, we have not made a final determination as to the patentability of any challenged claim or as to the construction of any claim term. Any final determination will be based on the record developed during trial.

IV. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that, pursuant to 35 U.S.C. § 314(a), an *inter partes* review of claims 1–20 of the '773 patent is instituted with respect to all grounds set forth in the Petition; and

FURTHER ORDERED that, pursuant to 35 U.S.C. § 314(c) and 37 C.F.R. § 42.4(b), *inter partes* review of the '773 patent shall commence on the entry date of this Order, and notice is hereby given of the institution of a trial.

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